0095

TECHNICAL MEMORANDUM

Utah Coal Regulatory Program

October 15, 2007

TO: Internal File

THRU: Pamela Grubaugh-Littig, Permit Supervisor

FROM: Jerriann Ernstsen, Ph.D., Environmental Specialist, Biologist

RE: Conditions - Lila Canyon Extension, UtahAmerican Energy Inc., Horse Canyon Mine, C/007/0013, Task ID #2883

SUMMARY:

The Division received an updated Application to include the Lila Canyon Mine area into the Horse Canyon Mine permit on February 21, 2007. In response, the Division issued findings, which state that the Permittee did not meet certain wildlife and archaeology requirements. Over the course of several months, the Permittee resubmitted documentation and Division reviewed responses. Most of these findings were eventually issued as conditions to the permit. Currently, the Permittee has met most of the deficiencies/conditions. For the conditions not yet met, they will remain as conditions and the Permittee will adhere to these requirements for the life of the mine (refer to DOGM letter to Permittee 10152007).

The proposed extension area is located in Emery County, Utah (7.5 Minute USGS Quadrangle map is Lila Point). The legal description for the proposed extension is T16S R14E Sections 10, 11, 12, 15, 14, 13, 22, 23, 24, 26, and 25, and in T16S R15E Sections 19 and 30. The proposed extension area is about 4660 acres, which includes approximately 42 acres of surface disturbance for the facility site.

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GENERAL CONTENTS

PERMIT APPLICATION FORMAT AND CONTENTS

Regulatory Reference: 30 CFR 777.11; R645-301-120.

Analysis:

The Application met the requirements of R645-301-120 for the Biology Chapter or Archeology Section because either the MRP follows the Division's format and content requirements or the Permittee will follow the conditions on the permit (DOGM letter to Permittee 10152007).

UEI moved Appendix X-1 and X-2 from the MRP–Part A Volume IV to the Confidential File (DOGM letter to Permittee 08032007; Condition 3c). The Permittee submitted (05042007) the requested information as requested and will provide DOGM with the Confidential Binder for the PIC before the end of the year. The documents that were requested to be moved from MRP-Part A, will be incorporated at that time.

Findings:

Information provided in the plan meets the Permit Application Format and Contents in General Contents requirements of the regulations.

REPORTING OF TECHNICAL DATA

Regulatory Reference: 30 CFR 777.13; R645-301-130.

Analysis:

The Application met the requirements of R645-301-130 for the Biology Chapter and Archeology Section because these entries included documentation that shows that qualified professionals conducted or directed surveys and analysis. The Permittee also provided information that exceeds the requirements of the regulations in order to meet the board's requests including qualifications of all persons who participated in data collection and analysis.

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State of Utah
DEPARTMENT OF NATURAL RESOURCES
Division of Oil, Gas & Mining

MICHAEL R. STYLER
Executive Director

JOHN R. BAZA
Division Director

Findings:

Information provided in the plan meets the Reporting of Technical Data in General Contents requirements of the regulations.

ENVIRONMENTAL RESOURCE INFORMATION

Regulatory Reference: Pub. L 95-87 Sections 507(b), 508(a), and 516(b); 30 CFR 783., et. al.

HISTORIC AND ARCHEOLOGICAL RESOURCE INFORMATION

Regulatory Reference: 30 CFR 783.12; R645-301-411.

Analysis:

The Application met the requirements of R645-301-411 pertaining to historic resources because the Permittee will provide proof in the MRP of the completion, by the Division (as per the delegation by OSM on January 4, 2006 pursuant to 30 CFR 944.30 Article VI (C) (4) (g)), of coordination efforts that meet the requirements under The National Historic Preservation Act (36CFR800; R645-301-300.113). The Division is currently (11012007) filing the signed Programmatic Agreement (PA) with the Advisory Council on Historic Preservation (ACHP). The Division will provide the Permittee with a copy of the correspondence for the MRP upon receipt of ACHP's correspondence. The MRP includes proof of concurrence with the Division's decisions ("clearances") from the SHPO (R645-301-411.142).

UEI never provided clear and concise information concerning the PA, protection of listed sites, direct/indirect impact, and information on sites within the permit and surrounding area (DOGM letter to Permittee 08032007; Condition 3b). However, the PA is a condition to the permit that is on-going and the Permittee will follow this condition – the PA. Below is taken from the October 15, 2007 letter to the Permittee from the Division.

> 2. UEI will follow the Programmatic Agreement if cultural resource sites are discovered within the permit or adjacent areas. **(This condition is ongoing.)**

The MRP Confidential Binder includes numerous evaluations of historic resources that focus on or include the permit area. The MRP also includes narrative and maps that describe or illustrate locations of historic resources within or adjacent to the permit area. The Permittee summarizes the results of reports through 2006 and provides details of cultural or historic resources within the area (Confidential Binder, Appendix 4-1).

There is proof of coordination efforts with SHPO. The Division, in consultation with OSM, BLM, and SHPO, considers that the proposed Lila Canyon Mine would have an "*adverse effect*" on cultural resources. A Programmatic Agreement drafted by the Division and a Memorandum of Agreement drafted by the BLM are measures designed to address known or unknown potential effects that could occur as a result of this federal action.

The Division concurs with the recommendations provided in archaeological inventory reports that there are three prehistoric sites eligible for listing in National Register of Historic Places (NRHP) within or adjacent to the proposed extension area. One prehistoric site (42EM2517) may be susceptible to impacts caused by vandalism (Montgomery 1999). The BLM will implement the mitigation plan for 42EM2517 as directed in the MOA, prior to surveys or construction of the facilities site. The other two eligible sites are 42EM2255 and 42EM2256 and are subject to potential subsidence (Montgomery 2006; Miller 1991 and 2006). The Division will address these two sites as directed in the PA.

There are seven other recorded sites within or adjacent to the extension area that are recommended as not eligible and include one prehistoric site (42Em1121) and six historic sites (42Em3623, 42Em1335, 42Em1337, 42Em1339, 42Em3622, and 42Em3659). Five isolated finds also exist within or adjacent to the extension area and are recommended as not eligible. The Division knows of no other sites within the boundary of the Area of Potential Effect (APE) for this extension as of 1/2007.

Results in summary:

ARCH NUMBER	**Listed (L) Eligible (E) Not Eligible (NE) Report author**
42EM2517	E Montgomery 1999
42EM2255	E Miller 1991 Montgomery 2006 (not relocated)
42EM2256	E Miller 1991 Montgomery 2006
42EM1121	NE Rauch 1979 Montgomery 2006
42EM1337	NE Rauch 1981 Montgomery 2006
42EM1339	NE Rauch 1981 Montgomery 2006
42EM1335	NE Rauch 1979
42EM3622	NE Montgomery 2006

42EM3623	NE Montgomery 2006
42Em3659	NE Montgomery 2006

There are no cemeteries in or within 100 feet of the Lila Canyon Extension permit area, and it contains no units of the National System of Trails or Wild and Scenic Rivers system.

Findings:

Information provided in the plan meets the Environmental -Historic and Archeological Resource Information requirements of the regulations.

VEGETATION RESOURCE INFORMATION

Regulatory Reference: 30 CFR 783.19; R645-301-320.

The Application met the requirements of R645-301-321 because there is adequate discussion of the plant communities observed within the permit area. Volume 2 (Appendix 3-1 and 3-2) contains vegetation surveys, vegetation maps, and productivity estimates for the proposed facilities and reference areas. Plate 3-2 shows plant communities including communities associated with the spring and drainage locations. The MRP also includes adequate vegetation analysis or proposed analysis needed for assessing reclamation potential and success.

The Division received comments about a lack of current data for the entire permit area. The King (2003) report includes quantitative and qualitative details of vegetation resources for the proposed Lila disturbed and reference areas (Appendix 3-1). Dr. King surveyed for cover, cover by species, shrub density, and similarity of composition for reference and proposed disturbance areas. This survey, in general, shows that pinyon-juniper and grass-shrub communities dominate the proposed permit area. Snakeweed (poisonous) and cheatgrass are the two weedy species that dominate the area. Another comment was the lack of evaluations for biological crust. Dr. King evaluated cryptobiotic soils as one of the baseline measurements for the proposed disturbed and reference areas.

In 2003, the Division, Dr. King, and Permittee established a new reference area just a few hundred feet south of the original reference area. The Division was concerned about coal fine dust depositing on the original reference area located immediately west of the proposed mine entrance and operations site.

The similarity coefficient value from the two test areas exceeded the required value of 70 with twenty-three species common to both areas. This result supports that the reference area

selected by the Division and Dr. King is acceptable. Surveys conducted after reclamation should apply life form numbers not species for the similarity coefficient equations.

Results in summary (King 2003):

TYPE COVER	REFERENCE AREA % of total cover	DISTURBANCE AREA % of total cover
Vegetation	48	45
Cryptobiotics	14	7
Physical features	37	47

NRCS evaluated productivity levels for the proposed disturbed site and reference area in 2003. A fire had burned both areas several years ago. The plant communities showed signs of drought stress, but were in fair health. The area did not show signs of over grazing by cattle. There was evidence of mule deer use. Mormon crickets were on top of the plateau, but not in either of the evaluated areas.

The Division received comments that the Application should identify important plant communities such as riparian areas. Appendix 7-7 and Chapter 3 provide information on springs and drainages including a brief description of plant communities associated with springs.

Findings:

Information provided in the plan meets the Environmental - Vegetation Resource Information requirements of the regulations.

FISH AND WILDLIFE RESOURCE INFORMATION

Regulatory Reference: 30 CFR 784.21; R645-301-322.

Analysis:

GENERAL WILDLIFE

The Application met the requirements of R645-301-322 because there is adequate discussion, supporting documentation, or maps on fish and wildlife resources for the permit and adjacent areas (Vol. 2 Appendix 3-3 through 3-6). Appendices include vegetation survey reports, TES correspondence, TES inventory reports, raptor survey reports, and reference for the DWR Wildlife Report. The wildlife- and TES-related appendices (App 3-4) include nine separate Threatened and Endangered Species entries (1999 - 2002).

The Division received comments that the Application does not contain site-specific resource information, fails to address high value wildlife habitats, and lacks sufficient information to design the protection plan. The Division, in consultation with DWR and BLM, determined the level of detail required for wildlife information. The agencies declined to require additional monitoring of the wildlife species. However, the agencies agreed that the Permittee should:

- Inventory all seeps and springs (including descriptions of riparian habitat, seep and spring vegetation, and presence/absence of amphibians).
- Monitor south canyon water source(s) i.e., Stinky Springs.
- Calculate water consumption.

Complying with the agencies requests, the Application now includes the Permittee's descriptions of riparian habitat and presence/absence observations of amphibians (Appendix 7-7 PHC). The Division has verified some of the observations provided by the Permittee. The Permittee monitors Stinky Springs as part of the quarterly monitoring program. The Application also now includes water consumption estimates. The Permittee will report actual water depletion values annually in their Annual Report. If values increase over 100 acre-feet of water, the Permittee will mitigate their impact by contributing a one-time fee to the Recovery Program.

During the drafting of the EA (UT-070-99-22 July 2000), DWR, USFWS, and BLM agreed to develop a wildlife enhancement/mitigation plan to help offset impacts to bighorn sheep as well as mule deer, elk, raptors, and chukars (Section 322.220, 333). (See details of this agreement in Operations section of this memo.)

Ungulates

The Application includes wildlife information in Section 322.220 and the wildlife map (Plate 3-1, 3-1A). Plate 3-1 shows there is habitat within the Lila permit area for Rocky Mountain bighorn sheep, elk, and mule deer and habitat within the surface facilities area for sheep and mule deer. A large area adjacent to the permit boundary is habitat for pronghorn (Plate 3-1 and 3-1A).

On June 6, 2002, the DWR, USFWS, BLM and the Division discussed big horn sheep in Lila Canyon and in an unnamed canyon located in the southwest corner of the permit area. The agencies considered that, although Rocky Mountain bighorn sheep spend all year along the escarpments in the Lila Canyon area, the sheep may move further up the cliffs when traveling the escarpments because of mining operations. After site visits (June 6, 12, 2002), Chris Colt of DWR stated that mining operations should not impact the sheep along the escarpments.

The agencies also considered that the seeps in the unnamed canyon are significant water sources for the bighorn sheep. UEI agreed to monitor two of the springs (L-16-G and L-17-G)

on a quarterly basis beginning the second quarter of 2002. UEI also moved the permit boundary further north to avoid these springs.

Migratory Birds, Game Birds, and Raptors

There are five golden eagle nests in the cliff habitat above the proposed facility site. These nests are within or close to the 0.5-mile (2640') buffer zone for the facility site. The nest numbers are 947, 456, 946, 455, and 719.

UEI does not specifically mention the bald eagle in any field survey report. The DWR raptor surveys, however, will note their presence in their survey reports if DWR observes this species during UEI's annual fly-over inventory.

Information from DWR shows that water sources up Lila Canyon are heavily used by chukars. DWR mentioned that mining operations near the mouth of the canyon would affect these birds.

THREATENED, ENDANGERED, AND SENSITIVE SPECIES (TES)

The Application met the requirements of R645-301-322 because there is adequate discussion, supporting documentation, and maps on TES species that could occur within or adjacent to the permit area. Appendices for Chapter 3 include the following wildlife and TES-related resources: USFWS TES list, nine separate TES surveys (1999 - 2002), DWR raptor surveys, and 'Fauna of Southeastern Utah and Life Requisites Regarding Their Ecosystems' (reference only).

The Emery County TES list includes Barneby reed-mustard, Jones cycladenia, last chance townsendia, Maguire daisy, San Rafael cactus, Winkler cactus, Wright fishhook cactus, bonytail chub, Colorado pikeminnow, humpback chub, razorback sucker, Mexican spotted owl (MSO), black-footed ferret, western yellow-billed cuckoo (candidate), and southwestern willow flycatcher. Documents in Appendix 3.3 show that there are no known occurrences of TES species, but there may be suitable habitat for certain species.

TES Animals: Mexican Spotted Owl (MSO)

Appendix 3-4 includes the letter "Summary of Mexican Spotted Owl Habitat Survey Within the Lila Canyon Coal Lease Area", which summarizes the Willey MSO report (2002) and provides an action plan for MSO. The Willey study showed there is suitable MSO habitat within the Lila Canyon permit area. In the action plan and Section 333, the Permittee agrees to conduct "formal" MSO calling surveys two years prior to reaching potential MSO habitat under two conditions: 1) the habitat areas are identified by the 2000 model (or currently accepted model) and supported by the Willey flyover results and 2) the areas are classified as subsidence zones.

The ground-truthing survey for MSO habitat is normally recommended prior to the calling survey for birds. DWR (May 27, 2004, June 9, 2004), nevertheless, considers the Willey flyover as an adequate substitute for the ground-truthing survey for habitat. UEI is still responsible for conducting the calling survey two years prior to reaching potential MSO habitat. The success of this action will depend on UEI's awareness of mine scheduling coupled to habitat locations. The Application provides a mine map overlain with potential MSO habitat (Plates 5-3 Lila Confidential File).

TES Plants

The Division, in consultation with DWR and BLM, determined that the Lila Canyon Extension project has potential habitat for the Cliff's blazing star, canyon sweetvetch, and creutzfeldt-flower (all BLM candidate and sensitive species). The Permittee will survey these species either the year construction begins or one year prior to construction (Section 321.100)

Mr. Coonrod (Biological Assessment 2000) stated that there is suitable habitat for San Rafael cactus (Despain footcactus), Winkler cactus, and Wright fishhook cactus within the permit area. The Utah Heritage Program (DWR), however, considers that there is very little chance that any of these three TE species could occur near the Lila mine. The Division does not impose further requirement at this time to conduct field surveys for these species.

Mel Coonrod (EIS; and staff) surveyed for many TES plant species (May 1999, August 2000, April 2002, May 2002). The observations for individual plants were positive only for canyon sweetvetch.

Findings:

Information provided in the plan meets the Environmental - Fish and Wildlife Resource Information requirements of the regulations.

MAPS, PLANS, AND CROSS SECTIONS OF RESOURCE INFORMATION

Regulatory Reference: 30 CFR 783.24, 783.25; R645-301-323, -301-411, -301-521, -301-622, -301-722, -301-731.

Analysis:

Archeological Site Maps

The Application met the requirements of R645-301-411.141 because there are archeological maps showing known resource locations within the permit area (Confidential Binder).

Cultural Resource Maps

The Application met the requirements of R645-301-411.141 because there are maps showing known historic resource locations within the permit area (Confidential Binder).

Vegetation Reference Area Maps

The Application met the requirements of R645-301-323.100 because vegetation maps illustrate community types within the disturbed and reference areas, as well as illustrate the location of reference areas. Plate 3-2 locates "land features" of the permit area including plant communities (listed above), spring locations, and geologic formations. Appendix 3-1 provides a description and quantitative survey of the vegetation as well as a map of the plant communities within the permit and reference areas. The vegetation map in Appendix 3-1 shows the boundary for the reference area.

Findings:

Information provided in the plan meets the Environmental - Maps, Plans, and Cross Section Resource Information requirements of the regulations.

OPERATION PLAN

PROTECTION OF PUBLIC PARKS AND HISTORIC PLACES

Regulatory Reference: 30 CFR784.17; R645-301-411.

Analysis:

The Application met the requirements of R645-301-411.144 because the Permittee identified parks or cultural and historic resources that mining operations may adversely affect and there is adequate information pertaining to a protection plan.

A Programmatic Agreement (PA drafted by the Division) and a Memorandum of Agreement (MOA drafted by the BLM) are measures to protect, avoid, or mitigate for known and unknown archaeological resources. The PA includes many stipulations that the Permittee will adhere to as part of the Conditions to the permit (DOGM letter to Permittee 10152007). The Permittee must always comply with these Agreements.

The BLM will conduct a data recovery project for eligible site 42EM2517. This project will begin following the Notice to Proceed, which is issued by BLM following mine plan

approval, but prior to construction of the facility site. The BLM will be the overseeing agency and will follow the agreements in the MOA.

There are no public parks, or units of the National System of Trails or the Wild and Scenic Rivers system within the proposed permit area.

Findings:

Information provided in the plan meets the Operations - Protection of Public Parks and Historic Places requirements of the regulations.

FISH AND WILDLIFE INFORMATION

Regulatory Reference: 30 CFR Sec. 784.21, 817.97; R645-301-322, -301-333, -301-342, -301-358.

Analysis:

GENERAL WILDLIFE

The Application met the requirements of R645-301-333, R645-301-342, and R645-301-358 because the Permittee will use the best technology available to minimize impacts to wildlife and its critical habitat. There is also sufficient information relating to protection/enhancement plans or there is adequate information to develop additional protection/enhancement plans, under the direction of the Division and other agencies.

The conveyor from the rock tunnel to the run of mine coal stockpile will be elevated to avoid restriction of large mammal movement. The only fence will be along the County road, about 1000 ft long. The fence will not impede large mammal movement up-canyon, but will restrict movement in the drainage to the south.

The Permittee will discharge all suitable water encountered during operations in a manner that it becomes available to wildlife. Ensuring water quality suitability is a requirement of the UPDES discharge permit. The Application discussed the possible benefits of water in the sediment pond to wildlife in Section 333.300.

During the drafting of the EA (UT-070-99-22 July 2000), DWR, USFWS, and BLM agreed to develop a wildlife enhancement/mitigation plan to offset impacts to bighorn sheep as well as mule deer, elk, raptors, and chukars (Section 322.220, 333). The plan includes a habitat enhancement project for about 70 acres of pinyon-juniper woodland, shrubs, forbs, and grasses, as well as installation of two guzzlers (EA pg 27). The overseeing agency for this project is the BLM with DWR serving as a consultant. These agencies will finalize the details of the project and the Permittee will submit the final plan as an appendix to the MRP within one year following

mine plan approval (Section 333). The plan will include project goals, expected benefits, project procedures, company commitments, implementation dates, project locations and agency contacts.

The Permittee states that the vegetation project would be "70 + acres" (Sections 333 and 342.200; pgs 18, 26). The EA, however, states that the project would be approximately 93 acres (EA pg 27). The Permittee sent in a letter from BLM that addressed why the mitigation project acreage is presented as 70+ in the MRP instead of approximately 93 acres as stated in the 2000 EA (deficiency from DOGM technical memo 01232007).

Protection and Enhancement Plan [Sheila Mo9]

The wildlife exclusionary periods include: raptors (Feb 1 - July 1), deer/elk winter range (Dec 1 – April 15), deer/elk calving (May 15 – July 5), bighorn sheep rutting (Dec 1 – April 15), bighorn sheep lambing (May 1 - June 15), and pronghorn (May15 – June 20).

Ungulates

There is habitat within or adjacent to the permit area for Rocky Mountain bighorn sheep, elk, mule deer, and pronghorn. The Permittee will adhere to exclusionary periods when initiating construction and final reclamation projects.

There is no designation of critical habitat for ungulates within the disturbed area. There is a large area designated as critical habitat for mule deer, but it is east of the disturbed area. Plate 3-1 shows that the disturbed and adjacent areas are yearlong habitat for pronghorn, mule deer, and Rocky Mountain bighorn sheep.

The agencies (USFWS, DWR, and BLM) that participated in the drafting of the 2000 EA, agreed that direct surface disturbance would affect ungulate habitat, but would have little effect on the species. They also agreed, however, that impact to seeps or springs could directly impact the sheep. The agencies determined that the installation of two guzzlers as well as the vegetation mitigation project would avoid impact to the sheep (EA pg 58) and its habitat. The Permittee commit to this mitigation project in Sections 332, 333, and 342.200 (pgs 14, 18, 26).

Fish, Amphibians and Reptiles

The USFWS commented that there should be an evaluation of the effects of water discharge to the Price River on the Colorado pikeminnow. This discharge line was apparently proposed earlier, but is no longer included in the Application.

There was a concern that discharged mine water could increase in salinity as it flows through the Mancos Shale before draining into the Price River. The USFWS stated that they

were not concerned about the increase in salinity from this project, but was concerned about selenium deposition. The Permittee, however, does not expect to discharge.

The Division contacted the Bureau of Reclamation (BOR) concerning the mine water discharge and the Colorado River Basin Salinity Control Program. The BOR has no regulatory requirement for salinity control. However, if the mine discharges and contributes to salinity, then BOR would be interested in working with the mine to reduce the output. Working with the mine could include the BOR paying to pipe the water to the Price River. The BOR also stated that since the BLM has salinity mandates, they should be the agency that addresses this issue.

The Division received comments that subsidence could damage snake dens. During the writing of the EA (UT-070-99-22-July 2000),the Division, DWR, and BLM determined that mining operations might impact snake dens, at random, with only a minor impact to the overall snake population. The agencies at that time did not require snake-related surveys.

There are springs or wet meadows that could support amphibians within the permit area. None of the springs are within the facility disturbance area,. During the writing of the EA, the Division, DWR, and BLM determined that the Permittee did not need to conduct formal amphibian-related surveys, but would need to characterize the sites. Complying with these agency's requests, the Permittee has provided personal observations and states that he has not observed amphibians while conducting water monitoring (Appendix 7-7 PHC). If subsidence occurs, the Permittee commits to regrade and fill subsidence-related cracks, fissures, or sinkholes.

Migratory Birds, Game Birds, and Raptors

There are five golden eagle nests within approximately 0.5 mile from the surface facility area. During the writing of the EA (2000), USFWS, DWR, and BLM determined that there would be no adverse affect to the raptors because of the facility site disturbance (~93 acres of raptor habitat), but the project would directly affect nesting habitat within 0.5 mile of the facility. The agencies projected that the birds would abandon these nests, and would probably nest in alternative cliff zones through the life of mining operations. They determined that the limiting factor in this area is the availability of prey and not the availability of nesting habitat. To help mitigate the potential impact caused by the surface disturbance, the agencies agreed to plan and oversee an approximate 70-93 acre vegetation enhancement project that would increase prey base for the raptors. The Permittee agreed to this mitigation project, that will be managed by BLM, in Sections 322.20 pg 11 and 330 pg 18.

Also, during the writing of the EA, the agencies determined that construction of the Lila Canyon extension would indirectly affect raptors that may be tending nests or nesting within 0.5 mile of the facility. They projected that the birds would abandon a nest if construction begins during the breeding season. The agencies agreed that the mine should prohibit initiation of

construction activity within 0.5 miles of occupied nest sites from February 1 to July 15 to avoid this impact. The Permittee agreed to this avoidance recommendation in Section 333.30 (pg 19).

Following a meeting on June 19, 2007 with BLM, DWR, and USFWS, the Division determined that the Permittee must provide additional protection measures to those recommended in the EA and committed to by the Permittee in the MRP. UEI objected to certain measures and therefore, the MRP does not include all the measures as stated below. However, these measures are drafted as a condition to the permit that is on-going and the Permittee will follow this condition in addition to what is relatedly stated in the MRP. The next paragraph was taken from the October 15, 2007 letter to the Permittee from the Division. Details of this condition are described in the paragraphs that follow.

3. UEI will: 1) provide for conducting yearly fly-over raptor surveys; 2) immediately contact UDOGM, USFWS, UDWR and BLM if raptors are tending nests or are nesting in areas near the area to be mined (mining in the subsidence zone and below the cliffs next to the subsidence zone) in the current nesting season or in the coming nesting season (the following year); 3) implement the Best Technology Available (BTA) to provide for the protection of the raptors and their nests. This BTA will be determined by the agencies and then implemented by UEI. Implementation of BTA measures may include fencing of the nests, or avoidance of the area and/or may also include the need to apply for a 'take' permit from USFWS; and 4) provide a complete report of the yearly surveys to UDOGM." **(This condition is ongoing.)**

The Permittee agreed to conduct yearly fly-over raptor surveys starting in 2005 in Sections 322.220 (pg 10) and 330 (pg 18). The Permittee will refer to the mining map overlaid with potential cliff habitat (Plates 5-3 and 5-5) for guidance. Pre-construction surveys will provide baseline and post-disturbance will provide data sufficient to determine or update protection plans or enhancement/mitigation measures as operations change. As part of this normal mining operation requirement, the Permittee must submit all results of the raptor fly-over surveys to the Division in Annual Reports and must immediately contact the Division, BLM, and USFWS following any raptor survey that shows that eagles are tending nests or nesting. The agencies will immediately coordinate to determine if the Permittee must implement appropriate measures. If the agencies recommend mitigation, the Permittee must submit mitigation plans to the Division for incorporation into Appendix 3 of the MRP. These provisions are included in Section 358.100 on page 38 as well as in Section 333.300 as part of the existing "protection" list.

Although the Permittee agrees to adhere to raptor exclusionary periods, the provisions in this paragraph add additional protection in the event of unforeseen changes in construction or mine plans, or in the case of emergency situations that may force the Permittee to conduct

activity near or within the 0.5 mile buffer zone of raptor nest and during raptor exclusionary periods (February 1 to July 15 for golden eagles). The MRP must include a provision that states that, in the event of unforeseen events, the Permittee will immediately contact the Division, BLM, DWR, and USFWS. The agencies will immediately coordinate to determine appropriate measures that may include: 1) conducting ground surveys, in coordination with DWR, to confirm if birds are tending nests or nesting and possibly determine the life stage of the offspring; 2) developing a mitigation plan, in coordination with the agencies, for possible impacts to nests or birds; or 3) ceasing operations until the end of breeding season to avoid 'take'. If the agencies recommend surveys, the Permittee must submit all survey results to the Division in Annual Reports. If the agencies recommend mitigation, the Permittee must submit all mitigation plans to the Division for incorporation into Appendix 3 of the MRP. These provisions are included in Section 358.100 on page 38 as well as in Section 333.300 as part of the existing "protection" list.

The Permittee must clearly illustrate the number of all raptor nests (not just golden eagle) within the subsidence zone. If the mining plan shows that there are one or more raptor nests located within the subsidence zone, the Permittee must provide a mitigation plan for possible subsidence of the nest(s). The Permittee must coordinate with the Division, DWR, USFWS, and BLM to develop a mitigation plan similar to the plan developed for the Bear Canyon Mine between 2006-2008. The plan must include the name of the lead agency, proposed date of implementation, a reporting mechanism, as well as the mitigation proposal. The MRP must include a provision that states the Permittee will apply for a nest 'take' permit, through the USFWS, if the mitigation plan includes preventing raptors from accessing nests. The Permittee must apply for 'take' permits 6-12 months prior to potentially subsiding nests. The Permittee must submit all mitigation plans and final reports to the Division for incorporation into Appendix 3 of the MRP. The MRP includes the requirement of this paragraph in parts. The Permittee must follow any measures of the condition that are not specifically stated in the MRP.

The Permittee removed the conflicting information on pages 10 and 16/17 (DOGM letter to Permittee 08032007; Condition 3g). DOGM considers that this commitment was an oversight and should not have been included in the list. The Permittee had addressed this issue prior to the 05172007 submittal, but DOGM re-reviewed this latest version to make sure and could not find any more conflicting information in the biology section concerning protecting the raptor nests through leaving pillars, which was in conflict with stating that they were going to subside the area. DOGM engineer also to looked in the engineering section (09242007) and reported that there was no conflicting information in the engineering section.

The Permittee plans to have below ground power lines within the disturbed area (Section 322.210). PacifiCorp will design and construct the power line from the distribution line to the Lila Canyon substation to the surface facility.

The Division received comments concerning the mine access road and impacts to wildlife. The Permittee will instruct employees to move road kill to the sides of the road and

will contact DWR when the public or employees report road kills (Section 333). These measures will help reduce vehicle collisions with raptors feeding on road kill.

DWR mentioned that chukars rely heavily on water sources up Lila Canyon and that mining operations near the mouth of the canyon would affect these birds. The BLM enhancement project will help reduce this predicted impact.

THREATENED, ENDANGERED, AND SENSITIVE SPECIES (TES)

The Division, in consultation with USFWS, determined that the Lila Canyon Extension project "may affect", but "is not likely to adversely affect" Mexican spotted owl or its critical habitat; and that there will be "no effect" on the other threatened or endangered species listed for Emery County with the exception of the Colorado River fish. The Office of Surface Mining completed the formal Section 7 consultation for the fish in January 2006.

TES Plants

The Permittee will survey for canyon sweetvetch, Cliff's blazing star, and creutzfeldt-flower at least the year construction begins or one year prior to construction. If the results are positive for these species, the Permittee must immediately submit a protection/mitigation plan to go into Section 333. The last survey report for these species was in 2007.

The areas with most potential for Cliff's blazing star and creutzfeldt-flower include the surface facilities area and north of the pediment (Section 15). The optimum months to survey Cliff's blazing star and creutzfeldt-flower are late June to middle August and late April to June, respectively. If the results are positive for these species, the Permittee must immediately submit a protection/mitigation plan. The Permittee must implement the plan prior to disturbance.

Mr. Coonrod (1999) recommended monitoring for canyon sweetvetch. The best time to identify this species is in middle June to early July (depending on drought conditions). The areas to survey canyon sweetvetch include the surface facilities area and south of the pediment (Section 21). The Permittee will also survey this species at least the year construction begins or one year prior to construction.

TES Animals

Mexican Spotted Owl (MSO)

The Permittee will conduct MSO calling surveys at least two years prior to reaching areas with MSO habitat and that are within the subsidence zone. The Permittee will follow the USFWS MSO survey guidelines that includes: two years of calling surveys each with four night time surveys with no more than one survey prior to end of April and at least three surveys prior to end of July. The Permittee will submit the results to USFWS, DWR, and the Division

immediately following each of the night time surveys. If owls are observed, the agencies will immediately coordinate to determine appropriate measures.

The Permittee must be aware of the mine progression in relationship to MSO habitat locations. The Application provides a mine map with an overlay of the potential MSO habitat (Plates 5-3 Lila Confidential Binder).

Colorado River Fish

The USFWS has determined that water depletions from the Upper Colorado River System are a major source of impact to four endangered fish species (Colorado pikeminnow [squawfish], humpback chub, bonytail chub, and razorback sucker). The Permittee estimated that mining operations would use an average of approximately 81 acre-feet of water, annually. The USFWS considers that this volume of water will adversely affect the four endangered Colorado River fish. The USFWS Recovery Implementation Program is the reasonable and prudent alternative to avoid the likelihood of jeopardy to these fish. The Permittee will report actual water depletion values annually in their Annual Report. If values increase over 100 acre-feet of water, the Permittee will mitigate their impact by contributing a one-time fee to the Recovery Program.

Southwestern Willow Flycatcher

The 2004 USFWS TE list now includes the southwestern willow flycatcher for Emery County. The Division received comments that mining operations could influence Range Creek and hence this flycatcher. The Biology and Hydrology sections of the Application describe the vegetation and geological constraints for potential habitat for or mining impacts to this species or Range Creek. (Sections 322.210, 724.200; Appendix 7-3 PHC). The lack of perennial streams and dense riparian vegetation near surface water or saturated soil within the permit area make it unlikely habitat for the southwestern willow flycatcher.

Bald and Golden Eagles

The DWR has not observed bald eagle nests within or adjacent to the permit area during overflight surveys. Bald eagles may use the area during the winter months, but the area is not considered critical habitat even as wintering range (DWR 8/16/05).

Refer to the *Migratory Birds, Game Birds, and Raptors* section for the discussion on the five golden eagle nests near the surface facility area.

Wetlands and Habitats of Unusually High Value for Fish and Wildlife

A standard stipulation on federal coal leases is that the lessees monitor the effects of underground mining on vegetation. The Application includes a plan to monitor vegetation with

color infrared photography every five years. This commitment is consistent with Division requirements for other mines and is acceptable.

There are springs and wet meadows within the permit area. None of these areas are within the facilities disturbance area, but there are a few within the permit area. The Permittee commits to regrade and fill subsidence-related cracks, fissures, or sinkholes if they observe subsidence cracks.

The Permittee will help protect escarpment habitat from subsidence with a minimum of 200 ft barriers.

Findings:

Information provided in the plan meets the Operations - Fish and Wildlife Information requirements of the regulations.

VEGETATION

Regulatory Reference: R645-301-330, -301-331, -301-332.

Analysis:

The Application met the requirements of R645-301-330, R645-301-331, and R645-301-332 because the Permittee provided measures to limit the degree of disturbance, plans to apply interim reclamation practices when applicable, and descriptions of mitigation procedures for subsidence-related impacts. The Permittee will provide the Division biologist with seed mix tags prior to or during interim, contemporaneous, and final reclamation projects (refer to R645-301-341.220).

The Permittee will revegetate with an interim seed mix on all incidental disturbances. Tables 3.4/3.5 and state the interim and final seed mix. The mixture contains a high proportion of blue flax, an aggressive self-seeding native species.

Section 331 refers to Section 340 (revegetation plan) for further information about revegetation methods.

The Division discusses measures that the Permittee will take to help protect escarpment habitat and water resources from subsidence in other sections of this memo or in the MTA.

Findings:

Information provided in the plan meets the Operations - Vegetation requirements of the regulations.

RECLAMATION PLAN

PROTECTION OF FISH, WILDLIFE, AND RELATED ENVIRONMENTAL VALUES

Regulatory Reference: 30 CFR Sec. 817.97; R645-301-333, -301-342, -301-358.

Analysis:

The Permittee met the requirements of R645-301-342 and R645-301-358 by providing enhancement and protection measures for fish, wildlife, and habitat during the reclamation and postmining phases in the Application.

The EA (UT-070-99-22 July 2000) discusses an enhancement/mitigation plan for the vegetation communities. The BLM, in coordination with DWR, will implement this plan. (See Operations section of this memo for details.)

The species in the seed mixture will ultimately provide good forage and cover for wildlife. The Permittee will reclaim the pinyon/juniper area to a grass/shrub community. This plan may enhance the quality of habitat in the area.

Findings:

Information provided in the plan meets the Operations - Protection of Public Parks and Historic Places requirements of the regulations.

CONTEMPORANEOUS RECLAMATION

Regulatory Reference: 30 CFR Sec. 785.18, 817.100; R645-301-352, -301-553, -302-280, -302-281, -302-282, -302-283, -302-284.

Analysis:

The Permittee plans to reclaim all disturbed areas as contemporaneously as possible within the constraints of seasonal weather. The seed mixes for interim and final reclamation are the same.

Findings:

Information provided in the plan meets the Reclamation - Contemporaneous Reclamation requirements of the regulations. Prior to approval, the Permittee must act in accordance with the following:

REVEGETATION

Regulatory Reference: 30 CFR Sec. 785.18, 817.111, 817.113, 817.114, 817.116; R645-301-244, -301-353, -301-354, -301-355, -301-356, -302-280, -302-281, -302-282, -302-283, -302-284.

Analysis:

Revegetation: General Requirements

The Permittee met the requirements of R645-301-353 through R645-301-356 by including a reclamation plan and discussion of how the reclamation measures will meet the performance standards.

The seed mixture for interim and final reclamation is the same (Table 3.4/3.5).

Appendix 5.8 and Table 3-3 describe the procedure for planting bare-root or containerized seedlings. The Permittee will carry out supplemental planting up to two years following seeding if it "appears that woody plant density is lacking." The plan states that for the woody plant supplement project s "the species and numbers will be determined from the evaluation of the ocular estimates. UEI will consult with the Division and DWR to provide the species and numbers of seedlings following the ocular evaluation (Appendix 5-8 page 3).

The Division received comment that the Permittee should not use lethal means of control for weeds and wildlife. The Permittee states that there will be "no use of pesticides or chemicals that have serious consequences to plants or wildlife...unless recommended by a regulatory agency..." (Section 333.200, page 18/19).

Revegetation: Timing

Table 3-3 provides a general reclamation timetable.

Salina wildrye, galleta, and blue grama are three of the more dominant grasses in the disturbed and reference areas. Galleta and blue grama are warm season grasses. The Division's experience has been that these species do not establish well when seeded in the fall. The Division has no experience with successfully planting warm season species in the summer in Utah.

Mines in New Mexico and Arizona usually seed warm-season species in the summer to take advantage of late summer rains. These monsoons begin around July 1 and contribute to over 70% of their annual precipitation. Comparably, the "monsoon" season at the Sunny Side weather station in 2003 began in July and ended in August, and contributed just over 20% of the annual precipitation. For the Lila area, the Division cautions adopting the practice of summer time seeding as the "official" planting season until data supports a change in protocol.

The Permittee will establish demonstration plots to test whether summer seeding will increase establishment of the warm season species (Section 354, page 28). The proposed demonstration plan includes to:

- Seed the sediment pond with the interim/final seed mixes in middle summer and late fall.
- Divide the test plot in four demonstration areas:
    - Northwest side: seeding in middle summer.
    - Southeast side: seeding in middle summer.
    - Northeast side: seeding in late fall.
    - Southwest side: seeding in late fall.

This orientation may prevent skewed results because of solar orientation. UEI will mark the four demonstration areas. For the first three years, UEI will conduct ocular evaluations of success. In year four, UEI will conduct a quantitative survey if there are ocular differences among the treatments. In year five, UEI may modify the reclamation timetable during the renewal process.

Revegetation: Mulching and Other Soil Stabilizing Practices

Appendix. 5-8 and Section 341.230 provide seed, mulch, and tackifier rates.

The Division recognizes the recovery rates for cryptogamic soil are slow, and that the period of extended liability may not be enough time to see "mature" or significant colonies. The Permittee, however, may increase soil stability by applying the best management practices for cryptogamic restoration.

Revegetation: Standards For Success

The effectiveness of vegetation for approved postmining land use as well as the extent of cover of the reclaimed area compared to the reference area determines revegetation success. The Permittee, Dr. King, and the Division established a new reference area in 2003, which is slightly southwest from the mine entrance.

The Permittee will follow the Division's "Vegetation Guidelines" to measure revegetation success.

Wildlife habitat is the primary and grazing is the secondary postmining land use.

Findings:

Information provided in the plan meets the Revegetation requirements of the regulations.

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